Listing of Claims:

1. (Currently Amended) An image-processing method for creating processed image data ~~by applying a spatial-filtering processing to~~ from source image data via an image-conversion processing including at least one spacial-filtering processing, said method comprising ~~the steps of~~:

setting ~~a~~ at least one predetermined upper-limit value for a variation amount ~~of said source image data~~ indicating an amount of difference between said source image data and said processed image data; ~~, before performing an image-conversion processing through which said source image data are converted to said processed image data by applying said spatial-filtering processing;~~ and then

performing said image-conversion processing ~~for~~ to convert said source image data into said processed image data by applying said at least one spatial-filtering processing to the source image data within a range of said variation amount limited by said predetermined upper-limit value.

2. (Currently Amended) The image-processing method of claim 1, wherein said at least one spatial-filtering processing comprises a plurality of different spatial-filtering ~~processing(s)~~ processings, ~~characteristics of which are different~~

~~each other,~~ a predetermined upper-limit value for a variation amount is set for each of the plurality of spatial-filtering processings based on characteristics of the respective spatial-filtering processings, and the plurality of spatial-filtering processings are performed ~~either~~ one of simultaneously in parallel ~~or~~ and sequentially one by one. ~~in said image-conversion processing, and said predetermined upper-limit value is set for every spatial-filtering processing, corresponding to each of said characteristics of them.~~

3. (Currently Amended) The image-processing method of claim 2, wherein said plurality of spatial-filtering processings comprise a first spatial filter ~~, having a characteristic to emphasize~~ for emphasizing an amplitude of image data ~~residing~~ in a first spatial frequency band, ~~and also having a first upper-limit value set as said predetermined upper-limit value,~~ and a second spatial filter ~~, having a characteristic to de-emphasize~~ for de-emphasizing an amplitude of image data ~~residing~~ in a second spatial frequency band; ~~and also having~~

wherein a first upper-limit value is set as the predetermined upper-limit value for the first spatial filter, and a second upper-limit value is set as ~~said~~ the predetermined upper-limit value for the second spatial filter; ~~, are provided in said plurality of spatial-filtering processing(s),~~ and

wherein said first spatial frequency band is higher than said second spatial frequency band, and said first upper-limit value is greater than said second upper-limit value.

4. (Currently Amended) The image-processing method of claim 2, wherein said plurality of spatial-filtering processings comprise a corresponding plurality of spatial filters ~~are provided in said plurality of spatial-filtering processing(s)~~, and each of ~~them corresponding~~ said plurality of spatial filters corresponds to ~~each~~ a respective one of said plurality of spatial-filtering ~~processing(s),~~ processings; and

wherein [[,]] each of said spatial-filtering processings is only applied to pixel data when an absolute value of ~~said~~ a variation amount for the corresponding spatial-filtering processing is higher than a predetermined lower-limit value, said absolute value of the variation amount being derived by applying said spatial-filtering processing to each pixel data value corresponding to the spatial filter of ~~each of said plurality of spatial filters, is higher than a predetermined lower-limit value,~~ said corresponding spatial-filtering processing. ~~is applied to said pixel data~~.

Claims 5 and 6 (Canceled).

7. (Currently Amended) ~~The~~ An image-processing method ~~of claim 6,~~ for creating a variable sized image by applying one of an enlargement processing and a reduction processing to source image data including a plurality of color components, said method comprising:

applying a plurality of different spatial-interpolation processing methods to said source image data, said spatial-interpolation processing methods corresponding respectively to said plurality of color components;

wherein at least one of said spatial-interpolation processing methods for processing a corresponding one of the color components is performed in accordance with a magnification factor of said enlargement processing or reduction processing;

wherein said spatial-interpolation processing methods are performed by employing weighted-addition average values of a plurality of pixels, ~~and~~ based on look-up tables ~~(LUTs)~~ of weighting coefficients [[,]] corresponding to said plurality of spatial-interpolation processing methods; ~~, are provided,~~ and

wherein a new look-up table is created by performing a weighted averaging operation ~~in respect to~~ with said look-up tables in accordance with the magnification factor, and said at least one spatial-interpolation processing method that is performed in accordance with the magnification factor is performed by employing the new look-up table. ~~is further~~

~~performed in response to said magnification factor of either said enlargement or said reduction processing, in order to create new look-up tables for spatial-interpolation processing(s).~~

Claim 8 (Canceled).

9. (Currently Amended) An image-processing method for creating processed image data by applying a spatial-filtering processing and ~~either~~ one of an enlargement ~~or~~ processing and a reduction processing to source image data, ~~under a condition that~~ when a magnification factor of ~~either~~ said one of the enlargement ~~or said~~ processing and the reduction processing is lower than a predetermined value, said method comprising ~~the steps of~~:

performing (i) a first size-varying processing to vary a size of an image ~~up~~ to a predetermined intermediate size, ~~established in advance~~ and ~~an~~ (ii) a first angle-rotating processing to rotate ~~an angle of~~ said image ~~up to~~ by a predetermined first angle value; ~~, being a predetermined rotating angle,~~

applying said spatial-filtering processing to image data processed by said size-varying processing and said angle-rotating processing; and

performing ~~again said~~ (i) second size-varying processing to further vary said size of said image ~~up~~ to ~~an~~ a predetermined

objective size, ~~also established in advance~~ and ~~said~~ (ii) second angle-rotating processing to reversely rotate ~~said angle of said~~ image ~~up to~~ by a second angle value, said second angle value being opposite said first angle value.

Claims 10 and 11 (Canceled).

12. (Currently Amended) ~~The~~ An image-processing method ~~of claim 11, further~~ comprising ~~the steps of~~:

extracting a plurality of couples of pixels, each of said couples of pixels comprising two pixels positioned symmetrically with respect to an objective pixel to be processed through an image-processing;

calculating differential values between said two pixels and said objective pixel for each of said plurality of couples of pixels;

extracting a specific couple of pixels having a minimum differential value out of said plurality of couples of pixels;

when said minimum differential value is lower than a predetermined first threshold value, setting a weighted-addition average value of said specific couple of pixels and said objective pixel, as a new value of the objective pixel;

establishing a new threshold value ~~, which is obtained~~ by adding a predetermined positive value to said minimum differential value;

extracting all of ~~specific~~ the couples of pixels [[,]] having differential values ~~of which are~~ lower than said new threshold value ~~, out of said plurality of couples of pixels~~; and

setting an average value of ~~image data, included in~~ of said ~~specific~~ extracted couples of pixels, as a value of ~~a noticed~~ the objective pixel.

Claim 13 (Canceled).

14. (Currently Amended) An image-processing method for processing source image data, said method comprising ~~the steps of~~:

setting a predetermined first threshold value ~~predetermined in advance~~ and a maximum radius from a noticed pixel to an objective pixel in the source image data, said noticed pixel being a pixel to be processed by an image-processing, ~~to an~~ and said objective pixel [[,]] being an object for comparison ~~, with respect to said source image data~~;

applying a signal-smoothening processing to said source image data based on the ~~basis of said~~ first threshold value and a

differential value between said noticed pixel and said objective pixel to generate second source image data;

setting a second threshold value, which is smaller than said first threshold value, and ~~a~~ an expanded radius, which is larger than said maximum radius; and

applying ~~again~~ said signal-smoothening processing to said second source image data based on the second threshold value and the expanded radius.

15. (Currently Amended) The image-processing method of claim 14, wherein said source image data ~~are~~ is obtained by applying a gradation-converting processing to image data outputted by an image inputting apparatus, and at least one of said first threshold value ~~and/or~~ and said second threshold value ~~are/is found~~ is determined based on ~~the basis of~~ gradation-conversion characteristics in the vicinity of a signal value of said noticed pixel ~~to be processed by said image-processing~~.

16. (Currently Amended) An image-processing method for processing source image data including a plurality of color components to convert said source image data into processed image data, each of ~~which includes~~ said plurality of color components including three data sets ~~of at least three dimensions,~~

including one ~~of~~ data set which represents brightness information, and ~~another~~ two ~~of~~ data sets which represent chrominance coded information, said method comprising ~~the steps of~~:

applying a first spatial-filtering processing to ~~a~~ the data set representing said brightness information; and

applying a second spatial-filtering processing to all of said three data sets;

wherein a ~~power~~ capacity for emphasizing a low-spatial frequency region is greater in said second spatial-filtering processing ~~is greater~~ than ~~that~~ in said first spatial-filtering processing.

17. (Currently Amended) The image-processing method of claim 16, further comprising ~~the step of:~~ performing a color coordinate-converting processing ~~by~~ in which said brightness information and said chrominance coded information are converted to ~~each of~~ color component signals, after applying said first spatial-filtering processing and before applying said second spatial-filtering processing.

18. (Currently Amended) An image-processing apparatus for processing an image, comprising:

an image-inputting section to acquire image data of a source image from an image recording medium or a document having said source image thereon;

an image-processing section to apply ~~an~~ the image-processing method recited in claim 1 to said image data acquired by said image inputting section, so as to create processed image data; and

an image-outputting section to output said image in ~~either~~ at least one of: a first mode ~~that~~ in which said processed image data ~~are~~ is written onto an information-recording medium, ~~or~~ a second mode ~~that~~ in which said processed image is ~~written on an image recording medium to obtain a hardcopy~~ printed, ~~or~~ and a third mode ~~that~~ in which said processed image data is displayed on an image-displaying device. [[;]]

~~wherein said image-processing section employs anyone of the image-processing methods described in claims 1-17.~~

19. (Original) An image-processing method for creating processed image data by applying a spatial-filtering processing and a size-converting processing in an enlarging direction to source image data, comprising the steps of:

determining whether an effect of a sharpness-emphasizing processing, to be performed in said spatial-filtering processing, should be relatively strong or weak, based on instructive

information in regard to image-processing items inputted in advance; and

applying said spatial-filtering processing at first, and then, said size-converting processing to said source image data, when determining that said effect of said sharpness-emphasizing processing should be relatively strong; or

applying said size-converting processing at first, and then, said spatial-filtering processing to said source image data, when determining that said effect of said sharpness-emphasizing processing should be relatively weak.

20. (Original) An image-processing apparatus for processing an image, comprising:

an image-inputting section to acquire image data of a source image from an image recording medium or a document having said source image;

an instructive-information inputting section to input instructive information in regard to image-processing items to be performed in said image-processing apparatus;

an image-processing section to apply an image-processing to said image data acquired by said image inputting section, so as to create processed image data; and

an image-outputting section to output said image in either a first mode that said processed image data are written onto an

information-recording medium, or a second mode that said image is written on an image recording medium to obtain a hardcopy, or a third mode that said image is displayed on an image-displaying device;

wherein said image-processing section determines whether an effect of a sharpness-emphasizing processing, to be performed in a spatial-filtering processing, should be relatively strong or weak, based on said instructive information in regard to said image-processing items inputted by said instructive-information inputting section; and

wherein said image-processing section applies_said spatial-filtering processing at first, and then, said size-converting processing to said image data, when determining that said effect of said sharpness-emphasizing processing should be relatively strong; or said image-processing section applies said size-converting processing at first, and then, said spatial-filtering processing to said image data, when determining that said effect of said sharpness-emphasizing processing should be relatively weak.

Claims 21 and 22 (Canceled).

23. (Original) The image-processing method of claim 16, wherein said second spatial-filtering processing further comprises the steps of:

finding sum-of-product values between noticed pixels and peripheral pixels;

establishing said sum-of-product values as values of said noticed pixels; and

extracting said peripheral pixels, to be employed for a calculation, out of a plurality of discontinuous pixels, wherein distance intervals for extracting said peripheral pixels are unequal relative to each other.